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10/826,276

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Teruo Koike

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EXAMINER

PAYNE, SHARON E

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/826,276	<b>Applicant(s)</b> KOIKE ET AL.	
	<b>Examiner</b> Sharon E. Payne	<b>Art Unit</b> 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/7/08 has been entered.

### ***Allowable Subject Matter***

2. The indicated allowability of claims 1-4, 7-13, 15-17, 20-22 and 25 is withdrawn in view of the newly interpreted reference(s) to automotive lighting. Rejections based on the newly cited reference(s) follow. The Examiner deeply regrets the inconvenience this action has caused.

### ***Claim Objections***

3. Claim 29 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The elements of claim 29 are already in claim 28.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 8, 20-21 and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (U.S. Publication 2003/0227774 A1) in view of Wesson (U.S. Patent 6,371,636).

Regarding claim 1, Martin et al. discloses a plurality of light sources (Fig. 10C, 1010-2 and 1010-3); a plurality of corresponding reflective surfaces (1030, Fig. 10C), wherein each of said light sources includes at least one LED array with LED chips arranged in a row (Fig. 10C), and each of said reflective surfaces is arranged in combination with one of said light sources to generate light beams each having a certain light distribution pattern (Fig. 10C), the light sources and reflective surfaces configured such that each of the light beams having a certain light distribution pattern are superimposed with each other to form said predetermined light distribution pattern (Figs. 4 and 5); and a light source holder shaped in a substantially polygonal form having sides (Fig. 10C, see the square in the middle) and a longitudinal axis in a direction that is substantially parallel with an optical axis of said lamp (Fig. 3A), wherein

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a first side includes at least a first LED array with the LED chips arranged in a row that extends substantially parallel to the optical axis (Fig. 3A, 310-1 and 310-2). Martin et al. does not disclose a second LED array with the LED chips arranged in a row which extends substantially perpendicular to the optical axis.

Wesson discloses a second LED array with the LED chips arranged in a row the extends substantially perpendicular to the optical axis (Fig. 21, top).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Wesson in the apparatus of Martin et al. do achieve the desired optical effect.

Concerning claim 2, Martin et al. discloses each side of the light source holder has one of the at least one LED array arranged thereon (Fig. 8B, middle) and wherein the reflective surfaces are located such that they surround the light source holder (Fig. 8B, see the outer reflector).

Regarding claim 3, Martin et al. discloses each side of the light source holder as one of the at least one LED array arranged there (Fig. 8B, middle). Martin et al. does not disclose the distribution pattern having a longitudinal axis substantially perpendicular to the optical axis.

Wesson discloses at least one LED array is arranged in a row direction such that a projected image of a light distribution pattern formed by the light reflected from a corresponding one of the reflective surfaces has a longitudinal axis in a direction substantially perpendicular to the optical axis (Fig. 21, top).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Wesson in the apparatus of Martin et al. do achieve the desired optical effect.

Concerning claims 8, 20 and 21, Martin et al. discloses one of the LED array and one of the LED chips is tilted with respect to the optical axis of the lamp so as to direct light to one of the reflective surfaces (Figs. 20 and 22).

Regarding claim 26, Martin et al. discloses a light source including at least three LED arrays (Figs. 8A and 8B) each LED array including a row of LED chips formed thereon (Figs. 8A and 8B), wherein at least one of the at least three LED arrays is tilted backwards to reduce the depth of the reflective surface (Figs. 20 and 22) at least three reflector surfaces (1030-2, 1030-3, 1030-4) located adjacent said at least three LED arrays (Fig. 10C), respectively, each of said reflector surfaces being configured to direct light emitted from one of said at least three LED arrays into a certain light distribution pattern such that the at least three reflector surfaces produce a plurality of certain light distribution patterns (Fig. 10C), and said plurality of certain light distribution patterns combine to form a predetermined light distribution pattern (Figs. 4-7). Martin et al. does not disclose a row of LED chips that extends substantially perpendicular to the optical axis.

Wesson discloses at least one row of LED chips extending substantially perpendicular to an optical axis of the LED type lamp (Fig. 21, top).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Wesson in the apparatus of Martin et al. do achieve the desired optical effect.

Regarding claim 27, Martin et al. discloses a light source holder located adjacent said at least three reflectors (Fig. 8B, middle) and having a plurality of sides extending in a direction parallel to an optical axis of the LED type lamp (Fig. 8A)

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wherein at least one of said at least three LED arrays is located adjacent at least one of said plurality of sides (Fig. 8B).

Regarding claim 28, Martin et al. discloses a plurality of light sources including at least one row of LED chips (310-1, Fig. 3A); a reflector located adjacent the light sources (Fig. 3A); and a light source holder including at least three surfaces having a long side which extends away from a vicinity of an apex of the reflector in a first direction (Figs. 3A and 3B), said first direction is substantially parallel to the optical axis of the LED type lamp (Fig. 3A). Martin et al. does not disclose a second LED array with the LED chips arranged in a row on a support which extends substantially perpendicular to the optical axis.

Wesson discloses wherein the at least one row of LED chips is arranged on one of the at least three surfaces in a second direction substantially perpendicular to the optical axis (Fig. 21, top) and wherein light emitted from the at least one row of LED chips is emitted along a second direction substantially perpendicular to the optical axis of the LED type lamp (Fig. 21, top).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Wesson in the apparatus of Martin et al. do achieve the desired optical effect.

Claim 29 fails to narrow claim 28, and it is rejected for the reasons stated in the analysis of claim 28.

Regarding claim 30, Martin et al. discloses each of the light sources includes a plurality of LED chips and the at least three surfaces extend along the optical axis of the lamp (Figs. 10C, 3A and 3B), each of said surfaces including at least one of said plurality of LED chips located thereon (Fig. 8B), and said reflector including a

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plurality of reflective surfaces each corresponding to a different one of said surfaces of said light source holder (1030-1, 1030-2, 1030-3, 1030-4 in Fig. 10C). Martin et al. and Wesson do not disclose the reflective surfaces being of different shapes.

Making the reflective surfaces different shapes is considered to be an obvious variation. Since the reflective surface is well known in the art, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the reflective surfaces different shapes to achieve the desired optical effects, since changes in shape require only routine skill in the art. See MPEP 2144.04.

6. Claims 4, 9, 10 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. and Wesson as applied to claims 1-3 above, and further in view of Yokoi (U.S. Patent 2001/0010634).

Regarding claims 4, 9 and 10, Martin et al. and Wesson do not disclose a shade. Yokoi discloses a shade (22) configured to block a part of light emitted from one of said light sources and arranged in the vicinity of said one of said light sources and in an optical path extending from said one of said light sources to one of said reflective surfaces to form the predetermined light distribution pattern (Fig. 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Yokoi in the apparatus of Martin et al. and Wesson to prevent glare. See Fig. 2 of Yokoi.

Concerning claim 22, Martin et al. discloses one of the LED array and one of the LED chips is tilted with respect to the optical axis of the lamp so as to direct light to one of the reflective surfaces (Figs. 20 and 22).



7. Claims 5 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Yokoi.

Concerning claim 5, Martin et al. discloses a plurality of light sources (1010-3, Fig. 10C); a plurality of corresponding reflective surfaces (1030-1, 1030-2 in Fig. 10C), wherein each of said light sources includes at least one LED array with LED chips arranged in a row (Fig. 10C), and each of said reflective surfaces is arranged in combination with one of said light sources to generate light beams each having a certain light distribution pattern (Fig. 10C), the light sources and reflective surfaces configured such that each of the light beams having a certain light distribution pattern are superimposed with each other to form said predetermined light distribution pattern (Figs. 4-7), a light source holder shaped in a substantially polygonal form having sides (Fig. 8B, middle) and a longitudinal axis in a direction that is substantially parallel with an optical axis of said lamp (Fig. 8A), wherein at least two of the sides each includes at least one of said plurality of light sources (Fig. 8B, middle). Martin et al. does not disclose a shade.

Yokoi discloses a shade located in a lateral direction from the light source holder (Fig. 2), the shade having a longitudinal axis and the longitudinal axis forming an angle between  $0^{\circ}$  and  $90^{\circ}$  with respect to the optical axis of the lamp (Fig. 2, see dashed line) and the shade being located between at least one of the plurality of light sources and at least one of the plurality of corresponding reflective surfaces (Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Yokoi in the apparatus of Martin et al. to prevent glare. See Fig. 2 of Yokoi.

Concerning claim 23, Martin et al. discloses one of the LED array and one of the LED chips is tilted with respect to the optical axis of the lamp so as to direct light to one of the reflective surfaces (Figs. 20 and 22).

8. Claims 6 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Abtahi (U.S. Patent 5,890,794) in view of Sassmannshausen (U.S. Patent 3,633,022).

Regarding claim 6, Martin et al. discloses a vehicle lamp for emitting light and forming a predetermined light distribution pattern, comprising a plurality of light sources (abstract), a plurality of corresponding reflective surfaces (abstract), wherein each of said light sources includes at least one LED array (abstract) with LED chips arranged in a row (Fig. 19A, see squares), and each of said reflective surfaces is arranged in combination with one of said light sources to generate light beams each having a certain light distribution pattern (Figs. 19A-19D) the light sources and reflective surfaces configured such that each of the light beams having a certain light distribution pattern are Superimposed with each other to form said predetermined light distribution pattern (Fig. 19C). and a light source holder shaped in a substantially polygonal form having sides (Figs. 19A-19D) and a longitudinal axis in a direction that is substantially parallel with an optical axis of said lam (Figs. 19A-19D), wherein each of the sides includes at least one of said plurality of light sources (Fig. 8B). Martin et al. does not disclose a cylindrical lens.

Abtahi et al. discloses at least one of the LED arrays including a cylindrical lens (abstract, Fig. 5 on the outside) having a longitudinal axis in a row direction of the at least one of the LED arrays (Fig. 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Abtahi et al. in the apparatus of Martin et al. to protect the LEDs while transmitting their light.

Sassmannshausen discloses a cylindrical lens (Fig. 2, top middle) changing an emission angle of light emitted from at least one light source to be a wider angle (Fig. 2, top).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the lens of Sassmannshausen in the apparatus of Martin et al. and Abtahi et al. to spread the light. See the top of Fig. 2 of Sassmannshausen.

Forming a cylindrical lens separately over each of the at least one LED arrays is considered an obvious duplication of parts. Since the lens over the LED array is well known in the art, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a plurality of lenses in the apparatus of Martin et al., Abtahi and Sassmannshausen to direct light as desired, since duplicating parts only involves routine skill in the art. See MPEP 2144.04.

Regarding claim 24, Martin et al. discloses the LED chips being tilted with respect to an optical axis of the lamp so as to direct light to one of the reflective surfaces (Fig. 22, top middle).

9. Claims 7, 15, 16 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Wesson as applied to claims 1-3 and further in view of Bezos et al. (U.S. Patent 4,654,629).

Regarding claims 7, 15 and 16, Martin et al. and Wesson do not disclose a control system. Bezos et al. discloses the vehicle lamp being configured such that one

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of a number and a position of the LED chips to be turned on in each LED array or between LED arrays can be varied such that the predetermined light distribution pattern can be varied (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the control system of Bezos et al. in the apparatus of Martin et al. to signal other car in a predetermined way. See the abstract of Bezos et al.

Regarding claim 25, Martin et al. discloses the LED chips being tilted with respect to an optical axis of the lamp so as to direct light to one of the reflective surfaces (Fig. 22, top middle).

10. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Wesson as applied to claims 2 and 3 and further in view of Abtahi et al. (U.S. Patent 5,890,794).

Regarding claims 11 and 12 Martin et al. and Wesson do not disclose a cylindrical lens. Abtahi et al. discloses at least one of the LED arrays including a cylindrical lens (abstract, Fig. 5 on the outside) having a longitudinal axis in a row direction of the at least one of the LED arrays (Fig. 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Abtahi et al. in the apparatus of Martin et al. and Wesson to protect the LEDs while transmitting their light.

11. Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Wesson and Yokoi as applied to claim 4 and further in view of Abtahi et al. (U.S. Patent 5,890,794).

Regarding claims 11 and 12 Martin et al., Wesson and Yokoi do not disclose a cylindrical lens. Abtahi et al. discloses at least one of the LED arrays including a cylindrical lens (abstract, Fig. 5 on the outside) having a longitudinal axis in a row direction of the at least one of the LED arrays (Fig. 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Abtahi et al. in the apparatus of Martin et al., Wesson and Yokoi to protect the LEDs while transmitting their light.

12. Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Yokoi as applied to claim 5 and further in view of Abtahi et al. (U.S. Patent 5,890,794).

Regarding claim 14 Martin et al. and Yokoi do not disclose a cylindrical lens. Abtahi et al. discloses at least one of the LED arrays including a cylindrical lens (abstract, Fig. 5 on the outside) having a longitudinal axis in a row direction of the at least one of the LED arrays (Fig. 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Abtahi et al. in the apparatus of Martin et al. and Yokoi to protect the LEDs while transmitting their light.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Wesson and Yokoi as applied to claim 4 and further in view of Bezos et al. (U.S. Patent 4,654,629).

Regarding claim 17, Martin et al., Wesson and Yokoi do not disclose a control system. Bezos et al. discloses the vehicle lamp being configured such that one of a

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number and a position of the LED chips to be turned on in each LED array or between LED arrays can be varied such that the predetermined light distribution pattern can be varied (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the control system of Bezos et al. in the apparatus of Martin et al., Wesson and Yokoi to signal other car in a predetermined way. See the abstract of Bezos et al.

14. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Yokoi as applied to claim 5 and further in view of Bezos et al. (U.S. Patent 4,654,629).

Regarding claim 18, Martin et al. and Yokoi do not disclose a control system. Bezos et al. discloses the vehicle lamp being configured such that one of a number and a position of the LED chips to be turned on in each LED array or between LED arrays can be varied such that the predetermined light distribution pattern can be varied (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the control system of Bezos et al. in the apparatus of Martin et al. and Yokoi to signal other car in a predetermined way. See the abstract of Bezos et al.

15. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Abtahi and Sassmannshausen as applied to claim 6 and further in view of Bezos et al. (U.S. Patent 4,654,629).

Regarding claim 18, Martin et al., Abtahi and Sassmannshausen do not disclose a control system. Bezos et al. discloses the vehicle lamp being configured such that one of a number and a position of the LED chips to be turned on in each LED array or between LED arrays can be varied such that the predetermined light distribution pattern can be varied (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the control system of Bezos et al. in the apparatus of Martin et al., Abtahi and Sassmannshausen to signal other car in a predetermined way. See the abstract of Bezos et al.

### ***Response to Arguments***

16. Applicant's arguments filed 8/7/08 have been fully considered but they are not persuasive. Applicant argues that claims 6 and 24 are allowable because Martin et al., Abtahi and Sassmannshausen do not disclose a cylindrical lens being over each light emitting diode array. This feature is an obvious duplication of parts under MPEP 2144.04 for the reasons stated in the rejection, and the rejection stands.

Applicant also argues that Martin et al. does not disclose LED arrays tilted backwards. This feature is disclosed in Martin et al. in Figs. 20 and 22. Thus, the rejections stand.

The other arguments are rendered moot due to new grounds of rejection.

***Conclusion***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharon E. Payne whose telephone number is (571) 272-2379. The examiner can normally be reached on regular business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sharon E. Payne/  
Primary Examiner, Art Unit 2875



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